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ABSTRACT

A study investigated second language learners' cognitive and affective responses to one authentic and three edited texts. Forty-nine college students at four levels of language learning read the same Spanish authentic passage and an edited passage written for their course level. After silent reading, they performed think-aloud tasks in their native language (English) to provide data on reading strategy use, and recall protocols to provide reading comprehension scores. Subjects were then interviewed to assess their affective responses to each text. Results indicated that all students comprehended significantly more from the authentic passage than from the edited ones. The majority of students also responded more favorably to the authentic passage than to the edited ones. Results suggest that students would benefit more from reading authentic texts, having cultural information written in English, or reading edited texts written with the characteristics often found in authentic texts, such as bold headings, subheadings, pictures, and obvious rhetorical organization, than from reading edited texts that lack these characteristics and are typically found in first- and second-year language textbooks. (MSE)

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PROCESSING STRATEGIES OF FOREIGN LANGUAGE READERS: AUTHENTIC AND EDITED INPUT

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Abstract

While there is increasing use of authentic texts in foreign language instruction and much has been written about using authentic texts in the foreign language class, little empirical data have been collected regarding authentic materials. This study examines cognitive and affective responses to one authentic and three edited texts.

Four levels of language learners (first through fourth year) at a major university in the United States were asked to read the same Spanish authentic passage and an edited passage written for the level of their Spanish course. After each silent reading, they performed think-alouds in the native language to provide data on strategy-use, and recall protocols, also in the native language, to provide reading comprehension scores. After the recall protocol task, subjects were interviewed to assess their affective responses to each text.

Results indicated that all students comprehended significantly more from the authentic passage than from the edited ones. The majority of students also responded more favorably to the authentic passage than to the edited ones.

This research suggests that students would benefit more from reading authentic texts, having cultural information written in English, or reading edited texts written with the characteristics often found in authentic texts, such as bold headings, subheadings, pictures, obvious rhetorical organization, etc., than from reading edited texts which lack these characteristics and are typically found in first and second-year language textbooks.

Processing Strategies of Foreign Language Readers: Authentic and Edited Input

In the last few decades, the language teaching profession has seen a substantial increase in the use of authentic texts (that is, unedited, unsimplified materials written for a native target language population) in foreign language reading instruction. This increase has evolved for several reasons. For one, The ACTFL Proficiency Guidelines for Reading emphasize the use of authentic texts to develop reading comprehension, which has led to the incorporation of such materials into the foreign language curriculum. Second, theoretical research into foreign and second language reading suggests that authentic texts offer language students increased opportunities for successful reading comprehension (Swaffar, 40; Young, 46). And third, foreign language (FL) and second language (SL) acquisition research claims that challenging and comprehensible "input" facilitates language acquisition (Krashen 30; Van Patten and Lee, 43). As Bacon (5) notes, authentic texts are becoming increasingly important as sources of "input."

While there appears to be a pedagogical trend of increased use of authentic texts for foreign language reading, witness the current emphasis in college language textbooks to include authentic texts, and numerous papers and presentation on "how" to use authentic texts in the language class, scant empirical, and even less qualitative, data exist on the differences between authentic versus simplified input. The present paper examines foreign language readers' cognitive processes (strategy-use, i.e., top-down and bottom-up) when they read authentic and edited texts and their affective responses to these two types of reading material to address the following question: Could it be that authentic materials encourage meaning-getting processes more than edited texts because they, unlike edited texts, are written to communicate ideas rather than teach language?

Strategy-Use Research

In the last decade, second language (SL) and foreign language (FL) reading research has been characterized by a process-oriented approach to comprehension based on the work of cognitive psychologists (i.e., Anderson and Pearson, 3; Rumelhart, 37; Stanovich, 39). Several types of process-oriented models reflecting the complex nature of SL and FL reading have evolved from the literature - the top-down, bottom-up and interactive model.[1] Of these, only interactive processing models have been well received in the profession.

In bottom-up processing, the reader constructs meaning in a linear fashion from letters, words, phrases and sentences. In this data-driven model, reading is a process "in which small chunks of text are absorbed, analyzed, and gradually added to the next chunk until they become meaningful" (Barnett 6, p. 13). In top-down processing, meaning is concept-driven. "The reader uses general

knowledge of the world or of particular text components to make intelligent guesses about what might come next in the text; the reader samples only enough to confirm or reject their [sic] guesses" 1.

Reading comprehension under an interactive model is achieved through an interaction among multiple knowledge sources, such as the text, the reader's foreign language proficiency and reading strategies, and the background experiences the reader brings to the text.[2]

In practical and pedagogical terms, we know that adult readers can use their preexisting knowledge about how their first language functions and sophisticated background experiences with the real world, to offset deficiencies in second language mastery: we accept that multiple knowledge sources are involved in the process of reading comprehension. A line of reading research that seeks to determine which knowledge sources come into play at which moment in the process is strategy research. Much of the research on SL strategy-use in reading explores the basis for successful and unsuccessful reading comprehension.[3] Text authenticity, however, is not a variable in these studies. What most first language and SL strategy research suggests is that readers "who focus on reading as a decoding process rather than a meaning-getting process" tend to be less successful readers (Carrell, 15). In other words, students who use primarily bottom-up processing tend to be less successful readers.

Authentic Texts

The definition of an authentic text used in this study is similar to the one used in other research (Bacon, 4; Cates and Swaffar, 17;). It is a text that is intended for the native speakers of the target language. Swaffar (40) emphasizes that an authentic text is "one whose primary intent is to communicate meaning" to native speakers of the language (p. 17). For Davies (18) what is authentic is what is not simplified and what is not pedagogical.

A simplified text can refer to "texts derived from original texts by means of various deliberate 'simplification' procedures" (Davies 18, p. 196). It can also refer to texts created specifically for SL learners which take into account their level of language instruction. In essence, simplification is a pedagogic device.

Many theorists contend that simplification affects a text's cohesion and coherence (Honeyfield 25; Lautamatti 32; Swaffar, 40). Berhardt (7) suggests that "simplified tasks and materials may indeed be more "teachable" than holistic tasks and materials, but they do not seem to focus on the actual comprehension process" (p. 329). Swaffar (40) contends that simplified texts can a) increase the difficulty of input because they are "culturally and linguistically sanitized'; b) deny students the authorial cues characteristic of authentic texts, and c) inhibit students from guessing or contextualizing meaning (p. 17).

In a survey of studies that compared native speaker versions of texts with versions simplified by researchers using linguistic adjustments or simplification strategies, "comprehension was consistently improved when elaborative modifications were present" (Larsen-Freeman and Long 30, p. 139). There may be a difference, however, between the type of simplifications or adjustments used in the research surveyed and those used by authors of commercial textbooks who create/write reading passages for a particular level of language learning. Edited texts or texts written for a particular level of language instruction are usually created to offer cultural information and/or emphasize and practice specific grammatical structures and lexical items.

Some researchers have examined the effects of authentic text structure on reading comprehension (Carrell, 12, 13, 16; Hudson, 27). In these studies, authentic text structure facilitated reading comprehension.

Several studies have examined the response of grade school children to authentic material. Klienbaum, Russel and Welty (28) compared communicatively taught foreign language classes using authentic texts with classes that used edited texts. They found that elementary school students reacted favorably to authentic materials, although language test scores in writing, speaking, reading and listening revealed no significant differences when they compared the two groups.

Duquette, Dunnett, and Papalia (19) examined the introduction of authentic cultural materials into a kindergarten class to see if authentic materials encouraged language production. These researchers found that the use of authentic materials helped "to substantially increase vocabulary and language stimulation, and appeared to have had an effect on cultural identification" (19, p. 490). For example, children in the experimental group spoke mostly French when using authentic French material while children in the control group switched more often to English.

Most research over the use of authentic materials has targeted grade school levels. One of the few studies to examine the use of authentic texts at the high school level was conducted by Allen, Bernhardt, Berry, and Demel (1). They looked at how high school foreign language students coped with authentic texts and found that these students actually "performed competently in all the authentic texts they were asked to read" (1, p. 168). Interestingly though, the teachers in the study had thought the texts too difficult and speculated that the students would not be able to "handle" the readings. The researchers argue that "foreign language educators have tended to underestimate and spoonfeed learners, maintaining that they had to achieve a certain level of grammatical ability before they could attempt authentic texts" (1, p. 170).

Research Questions

The present study attempts to answer the question of whether certain authentic materials encourage meaning-getting processes

more than edited texts because they, unlike edited texts, are written to communicate ideas rather than teach language, contain rhetorical structures to facilitate reading comprehension, and can be selected on the basis of commonly-known high interest topics. To do so, it investigates the following variables:

1. Does reading comprehension vary between two kinds of reading texts (an authentic and an edited one) across levels of language instruction?
2. Are there differences in processing strategies between two kinds of reading texts (an authentic and an edited one) across levels of language instruction?
3. Are there differences in student affective responses between two kinds of reading texts - an authentic and an edited one?

Subjects

A total of 49 subjects participated in this study: 14 first-year, 14 second-year, 9 third-year, and 12 fourth-year students. Students in the first year were in their second semester, and second year students were in their fourth semester of Spanish. Students in the junior level courses were in their sixth semester of Spanish. One of the junior-level courses was a conversation class and the other, a literature reading class. Students in the senior level courses had completed at least seven semesters of Spanish or the equivalent. One of the senior-level courses was in Spanish civilization and the other in applied linguistics.

Instruments

The 49 subjects in this study participated in a think aloud procedure, an oral interview that elicits comment on the reading process after exposure to a text, and a reading recall task, oral recalls of the content of each text. Both of these procedures allow access to processes and information that is difficult to obtain through other measures (Ericsson and Simon, 20). Think alouds and oral recalls were performed on two passages for each course level, a Spanish authentic passage and a Spanish edited passage. While the authentic passage was the same for all 49 subjects, the edited passages varied depending on the course level of the student. Three separate edited passages were selected from textbooks that subjects were using in the current semester.

To determine background knowledge, students were asked to rate their familiarity with the topic on a scale from 1 (very familiar) to 3 (not familiar). To examine students' perceptions of how well they understood each passage, they were ask to rate their understanding on a scale from 1 (all of it) to 5 (none of it).

To elicit students' affective responses to reading the authentic and edited material, students orally answered the following four questions: a) Which text was easier to read? b) Did one make you more anxious or was one more frustrating? If yes, which one? Why? c) Which text was more interesting? Why? d) If you could read more selections similar to the ones you have just read, which kind would you prefer? Why?

Reading Texts

Three samples of Spanish edited passages were taken from textbooks used at the course level of the student.[4] For first and second year students, passages were selected from chapters students had not yet read in their Spanish textbook. The passage for first-year students was 388 words in length and the second-year passage was 391 words in length, including title and captions. One passage of 451 words in length was selected for third- and fourth-year students. This passage was taken from the Spanish civilization textbook, which was for both third- and fourth-year students. All three of these edited passages had been written for language students at a particular level of language learning, and all three had cultural themes.[5] None had been previously read by the subjects.

The topic for the first-year edited passage was Hispanic American economics of the past and the future. The second-year edited passage was about the presence of foreign cultures in work and leisure of the Hispanic world. The third and fourth-year Spanish edited passage was about the cultural and intellectual growth of Spain during the Franco regime.

Several considerations were made for the selection of the one Spanish authentic passage all subjects were to read. A passage was sought that reflected the advantages researchers give for preferring authentic texts over simplified ones. Thus, a text from a popular Spanish magazine, similar to Good Housekeeping, was selected on the basis of its: a) conceptual familiarity; b) use of visual cues; and c) rhetorical organization (Swaffar, 40). Since we know that background knowledge facilitates reading comprehension (Carrell, 11, 13; Lee 33; Pritchard, 36), this text had to be a high interest topic commonly known to language students. The passage selected focused on myths and American medical findings about chocolate and was 420 words in length.[6]

Think aloud protocols. Think aloud protocols were coded along the lines of systems used in previous studies (Anderson, 2; Block, 10; Carrell, 15; Kletzien, 29; Pritchard, 36). Local strategies (bottom-up) focused on word, phrase and sentence level concepts, such as skipping unknown works, breaking lexical items into parts, translating a word or phrase, and paraphrasing. Global strategies (top-down) focused on conceptual and discourse level processing strategies, such as anticipating content, integrating information, and recognizing text structure (See Appendix A for strategy classifications).

After extensive training, two raters, this researcher and a graduate student, coded the think-alouds. Interrater reliability coefficients of .90 (for the edited passage) and .85 (for the authentic passage) were achieved for number of strategies used. To insure that the coding of strategy-types was reliable, this researcher and the same graduate students coded 20% of the think-alouds separately (after several training sessions). We found correlation's that ranged from moderate to strong for the strategy classifications.

Reading Recall Protocols. Bernhardt and Everson's (9) procedure for the development and scoring of the recall protocols where weights are assigned to pausal units or propositions was used for this investigation because of its high reliability and validity.[7] While other recall scoring procedures exist, such as the Meyer's System, Bernhardt (8) has illustrated several advantages of the propositional and weighted scoring system used in this study.

In scoring the recalls, interrater reliability coefficients of .89 (for level 3 propositions), .81 (for level 2 propositions) and .58 (for level 1 propositions), p. < .01 were achieved. An explanation for lower reliability coefficients for level 1 propositions can be offered in that there were very few level 1 propositions identified thereby making any differences appear greater. For a qualitative and quantitative analysis of students' processing strategies, scores from these reading recall protocols were used to discriminate among comprehension levels.

Procedure

All students read the same authentic passage. The edited passage differed on the basis of subjects' course level. The order of the Spanish readings varied to control for possible ordering effects. One-half of the subjects read their edited Spanish text first, then the authentic text; the other half read the authentic first and their edited text second.

Immediately after each reading, students were asked to recall in English everything they thought about during the reading that helped them understand what they were reading.[8] Then, students were asked to "recall everything you remember from this text." In other words, students were asked here to focus on what the text was about. Recalls were also done in English.[9] After the students had complete all passage tasks, they were asked to rate their familiarity with the passage topic before the reading and to rate their understanding of the reading.[10] Lastly, students answered the four questions over their affective reactions to the two text types.

Analysis and Results

1. Does reading comprehension vary between two kinds of reading texts - an authentic and an edited one- across levels of language instruction (as measured by a recall protocol)? Recall scores were, in general, 9 points higher for the authentic text (mean 24%) than the edited texts (mean 15%).[11] A t-test on recall scores for authentic and edited texts for all subjects indicated that this difference was significant ($t = -5.50$, $p < .0001$). In other words, students recalled significantly more from the authentic passage than the edited passages.

An ANOVA was performed on the data to determine whether there was a difference in recall scores (dependent variable) by course level (independent variable) for the authentic text. There were no significant differences among recall scores by course level (Authentic - $F = 1.34$, $p < .27$). In other words, students in

first, second, third and fourth-year Spanish did not perform significantly different from each other on the reading recall protocols for the authentic passage.[12]

Something does seem to change in the fourth-year, however, where only one student obtains a low score of 10, after which an almost equal number of the remaining eleven students fall into the mid and high range.[13]

In rating their understanding of the Spanish authentic passage, students in general indicated that they did not have to be familiar with the topic to understand the passage. While there was no relationship between how well students thought they understood the authentic passage and their familiarity with the topic, there was a significant relationship between topic familiarity and how well they thought they understood the edited passage ($r = .52$, $p < .0001$). Although these correlations are moderate, students reported having to be familiar with the topics of the edited passages to understand them.

Only seven of the forty-nine subjects obtained different levels of reading comprehension for the separate texts. For example, subject ID number 4 scored a high on the edited and a mid on the authentic passage. A qualitative examination of these students' data indicated that the variable that seemed to affect the readers' scores was their familiarity with the topic, confirming other findings in SL and FL reading research (Bernhardt, 8). Most of these particular students reported being familiar with the text topic for which their score was higher.

2. Are there differences in processing strategies (based on reader think alouds) between two kinds of reading texts - an authentic and an edited one - across levels of language instruction? A t-test was used to test the difference between strategy types for the authentic and edited texts. Strategy type was defined as the difference between local and global strategies. T-test results indicated that students used primarily local strategies in their reading of both the edited and authentic texts, $t = 4.45$, $p < .0001$ for the edited text and $t = 2.24$, $p < .03$ for the authentic text.

Results of another t-test indicated that there was a significant difference between strategies used to process the Spanish edited passage compared to the Spanish authentic passage for all subjects ($t = 2.43$, $p < .01$). Students in general used significantly fewer local strategies to read the authentic text as compared to the edited one (See Figure 1 for a graph of strategy-use by text type). When this difference was examined by course level, only in second year Spanish were the Spanish edited and authentic passages significantly different in strategy-use (see Table 1). The difference found in strategy-use between the edited and authentic texts for second year students was due to their extensive use of local strategies in the edited passage.

In sum, there was a predominance of local strategy use from first-year to fourth-year for all levels. There seemed to be a trend toward using fewer local strategies with the authentic passage as students gained language instruction or competence,

with the exception of the edited passage in second year.

INSERT FIGURE 1 HERE

INSERT TABLE 1 HERE

The results above are a result of a quantitative analysis of the data whereby all readers' strategies are examined by course level and/or by the kind of passage read (edited and authentic). By looking at those strategies used by students from all four courses who scored high, mid, and low on the recall protocols, (strategy-use of successful versus less successful readers), one can see that successful readers used more global strategies than the less successful readers to process the authentic text (See Figures 2 for the authentic passage strategy-use by students who scored high, mid and low). While successful readers of the authentic passage tended to use more global strategies, the successful readers of the edited text used almost as many global as local strategies (see Figure 3 for the edited text strategy-use by students who scored high, mid and low).

INSERT FIGURE 2 HERE

INSERT FIGURE 3 HERE

3. Are there differences in student affective responses between two kinds of reading texts - an authentic and an edited one? Table 4 summarizes students' responses to these questions: 1) Which text was easier to read? 2) Did one text make you more anxious or was one more frustrating? If yes, which one? 3) Which text was more interesting? 4) If you could read more selections similar to the ones you have just read, which kind would you prefer?

INSERT TABLE 2 HERE

A majority of the students felt that the authentic text was easier to read (98%), and most (67%) believed it was more interesting than the edited text (18%). Moreover, seventy-five percent experienced frustration and anxiety in reading the edited passage as compared to only four percent for the authentic passage. When asked which kind of text they would prefer to read, fifty-nine percent responded "authentic texts" while twenty-eight

percent responded "edited". These results indicate that students in general responded more favorably to the authentic text than the edited one.

The real insight into students' processing strategies can be found in a qualitative examination of their reactions to these two kinds of texts (See Appendix B for a sample of students' responses). In essence, students' reactions to the authentic text confirms the notion that features of authentic texts, such as their organizational structure, can enhance reading comprehension. Student responses lend support to the theory that edited texts can be more difficult, especially if culture-related because students have little to no background knowledge to help them piece the information together. In addition, students often cited vocabulary and structures as more difficult in the edited texts. It may be that comprehension of the vocabulary and structures intentionally placed in the edited texts were not automatic for the students, therefore causing them difficulty.

Students' responses indicated that the authentic passage was more interesting because it related more to the real world as opposed to an artificially-created one. The students who preferred reading the edited passage over the authentic one, however, felt the edited text was more substantive than the authentic text, even though they admitted understanding less and it being more difficult.

Discussion

The findings in this study support theoretical research regarding authentic readings, particularly at the beginning levels of language instruction. Students' comments over the texts in the interview data suggest that the format of the authentic passage enabled students to make use of top-down processing for more effective reading. In addition, popular magazines are usually written at a low level, which would also facilitate reading comprehension. Moreover, students felt the authentic passage was more interesting or meaningful to them than the edited passages. These often inherent characteristics of many authentic texts gave even the weakest readers an opportunity for success.

The edited passage appeared to be more difficult for a number of reasons. First, students either had little or no familiarity with the content of the edited passage topics. Furthermore, vocabulary and structures were repeatedly cited by students in their interview data as being more difficult in the edited passage. Another area of difficulty with the edited texts was their lack of organizational formats, such as sub-titles, bold headings, and paragraph groupings (familiar characteristics of edited passages). Finally, the edited passage topics were, for most students, not as interesting as was the authentic passage topic.

A post-hoc assessment of the readability level of each the texts in this study revealed that the edited texts were indeed more linguistically difficult than the authentic passage according to the Fry Readability Adaptation for Spanish Evaluation (Vari-

Cartier 44). In this readability formula, the score range consists of a beginning (Level I), an intermediate (Level II), an advanced intermediate (Level III) and an advanced (Level IV). The readability level of the authentic passage was intermediate (Level II). The readability level of the first-year edited text was advanced (Level IV)! For second-year it was advanced intermediate (Level III) and for third/fourth-year, advanced (level IV).

This post-hoc information helps explain the lack of a difference in recall scores for the authentic text across levels and the difference in recall scores between the authentic and edited texts. The authentic passage may have been appropriate for first-year students because of its accessibility through its visual cues, topic, and rhetorical structure. It was appropriately gauged for second-year students but not challenging enough for third and fourth-year students to warrant a significant difference in recall scores, although other studies of university level subjects have also found no definite progress of reading development across years of language instruction (Fry 21; Lee and Musumeci 35). The difference in recall scores between the edited and authentic texts could be explained by the difference in linguistic difficulty between these two texts. If we accept these results, then it bears pointing out that the edited passages at the first two levels of instruction did not appropriately gauge their language learners' readability levels. The first-year students were asked to read at an advance (Level IV) and the second-year at a level lower than the first-year, but too high for second-year - an advanced intermediate (Level III).

Two additional samples of edited texts were taken from the same first-year book used in this study and they both rated an advanced intermediate (Level III). Two additional samples of edited passages were also taken from the same second-year textbook used in this study and they rated an advanced intermediate (Level III) and an advanced (Level IV), again illustrating that edited texts in these books are not appropriately gauging their language learners' readability levels.

While cultural information is important in first-year language classes, perhaps it would serve students better if they were written in English. The focus for these readings would be on the cultural content. Entradas (Higgs, Liskin-Gasparro and Medley, 24), a proficiency-oriented Spanish college textbook, does this successfully (Young and Oxford, 47). If we are interested in developing students' reading skills, facilitating language acquisition, and facilitating reading comprehension certain kinds of authentic texts, such as the ones sampled in this study, would serve students better than edited texts.

Another option would be to have cultural texts written in Spanish but with characteristics similar to authentic materials, i.e., visuals, subtitles, and pre-reading exercises to prepare students to read the text.

It is difficult to explain why the second-year students were the only instructional level to show a significant difference between the kinds of strategies they were using to process the

edited as opposed to the authentic passage, particularly since the edited passage at this level was less difficult than the first-year edited passage. It could be that students had the least familiarity with the topic of this passage.

In terms of strategy-oriented research, findings in this study offer additional evidence to suggest, as in Bacon (5-6) and Carrell (15), that students use more word-oriented (local) strategies if a text is too difficult. In this study the edited passage was perceived to be more difficult than the authentic passage. As a consequence, successful readers of the edited passage used as many local strategies as global, successful readers of the authentic passage used more global than local strategies.

Westhoff's (45) description of FL reading instruction may offer insight into why the students in this study did not demonstrate progress in their reading skills across levels of instruction and why they used predominantly local strategies in processing these texts. Westhoff contends that there are common, widely adopted practices in our language classes regarding FL reading, such as instructors demanding careful reading, discouraging guessing, tolerating no mistakes, insisting that every word be read perfectly (45, p. 32). He concludes that "What students mainly learn from such teaching is to distrust their own knowledge and their capacity to hypothesize well. It encourages them to rely on bottom-up processing before all else. . . "(45, p.32).

Swaffar's (41) examination of the treatment of reading in four first-year college-level foreign language textbooks further explains why students are not strategic readers. She found that the beginning language textbooks she analyzed appeared "to be consistently reluctant to implement cognitively challenging reading or writing tasks." When they did appear they were "often peripheral to the focus of the language lesson" (41, p. 257). She also found that "reading for the information or entertainment value of the text" (41, p. 258) was largely neglected in all four textbooks.

In essence, edited passages at all levels of instruction often do not encourage strategic reading, and strategic reading for authentic texts is infrequently taught by language instructors and seldom used in the FL class.

If the goal of readings in beginning language textbooks is to encourage reading because of its benefit to overall language acquisition, to produce positive attitudes about reading and to develop reading skills, it makes sense to use texts with the kinds of characteristics embodied in the authentic text.

Conclusion

The present study offers some qualitative and empirical quantitative evidence to suggest that authentic materials can encourage meaning-getting processing more than edited texts because they, unlike edited texts, are written to communicate ideas rather than teach language.

Findings also suggest authentic texts should be used in class to actively promote "strategic" reading. Moreover, instructors need to select readings, particularly at the elementary levels, with a high likelihood of student topic familiarity and interest. These features of a text can encourage more varied strategy-use (local and global processing).

Foreign language reading instruction should also train students to use conceptually-driven strategies and not rely extensively or exclusively on word-oriented strategies. In essence, training students to read strategically should be an objective from the outset of instruction.

Little empirically based research has been conducted regarding processing and comprehension differences between edited and authentic texts. Future researchers may want to examine the differences in processing strategies that are more comparable in terms of topic familiarity, linguistic levels, and text organization, with a larger sample population, and with more variety in authentic text types.

Notes

1 See Barnett's More than Meets the Eye (6) or Swaffar, Arens and Byrnes' Reading for Meaning (42) for a review of these models and Bernhardt's Reading Development in a Second Language (8) for an in depth review of L2 reading research.

2 Examples of interactive models include Stanovich's (39) compensatory model, whereby a deficit in any knowledge source (i.e., proficiency, prior knowledge, strategies) leads to use of other knowledge sources and LaBerge and Samuels' automatic processing model, which claims that processing forms automatically frees cognitive space for focusing on the meaning of what is being read (Bernhardt, 7).

3 See Block, 10; Golinkoff, 22; Hauptman, 23; Hosenfeld, 26; Kleitzen, 29; Pritchard, 36; Sarig, 38)

4 Both first-year and second-year passages were from McGraw-Hill publications: T. Dorwick, M. Marks, M. Knorre, B. Van Patten, and T. Higgs, ¿Qué Tal? 2nd Ed., New York: Random House, 1987, p. 399 and M.L. Bretz, T. Dvorak, and C. Kirschner, Pasajes 2nd Ed., New York: Random House, 1987, p. 235-236. The third year passage was from Civilización y cultura de España by Vicente Cantarino, segunda edición. New York; Macmillan Publishing Co., 1988, pp. 109-110.

5 Thalia Dorwick, Publisher, Foreign Language College Division confirmed that the first-year and second-year passages were written for language learners at a particular level of instruction.

6 The authentic text "Hablando del chocolate" was from Buenhogar, no. 12 (June 1984), p. 85.

7 A recall protocol scoring template was developed for each text. A total of six fluent readers of Spanish (three native and three non-native) read the texts to themselves and identified pausal units. A pausal unit is a natural break or breath group under a normal oral reading of a text. On the occasions where there were differences, the more narrow units were selected as defined in Bernhardt (8). Weights were assigned to the pausal units or propositions. Three fluent readers of Spanish ranked pausal units or propositions from 1 (least significant) to 3 (most significant) in terms of the unit's importance to the message of the passage. In the cases where there was disagreement, a consensus determined the weight of the unit in question.

8 This researcher preferred retrospective versus concurrent think alouds to avoid interruptions in the reading process.

9 Lee (34) suggests that assessing comprehension in the target language does not give an accurate measure of reading comprehension because comprehension levels are usually higher than the ability to produce in the target language what was understood.

[10] Subjects were asked to rate their familiarity with the passage topic on a scale from 1 to 3 (1 = very familiar, 2 = a little familiar, 3 = not familiar). They were asked to rate their understanding of the passage on a scale from 1 to 5 (1 = all of it, 2= most of it, 3 = about half of it, 4 = some of it, 5 = none of it).

[11] Bernhardt and Everson (9) report an average recall score of 20% (30% for upper levels) for subjects in their study. They point out that even a native speaker would not recall more than 80%. They cite 20% to 30% recall as quite remarkable for an edited text.

[12] A comparison among recall scores for the edited passage would be inappropriate as texts are different for each level.

[13] Low recall scorers were represented by scores of 8-15, 17-29 were considered mid scorers, and 30 or above were considered high scorers.

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Appendix A

Strategy Classification Scheme

Strategy	Definition	Sample Responses
Local Strategies		
1. States understanding of words/vocabulary.	The reader acknowledges comprehension based on knowing all the words.	"Oh, this was easy to read cause the vocabulary was easy. I didn't have a problem. I seemed to know most of the words."
2. Skips unknown words.	The reader states that he/she skipped a word that was not familiar.	"I just kept on reading and if I didn't know a word I did not stop, I just skipped it."
3. Expresses use of gloss.	The reader voices use of word glosses or a need for a gloss or dictionary.	"I read the gloss for this word because I didn't know what it meant."
4. Breaks lexical items into parts.	The reader breaks up words or phrases into smaller units to figure out the word/phrase.	"Meaningless. Mean is significado but less is bajo significado."
5. Uses cognates L1 and L2 to comprehend.	The reader expresses ease of understanding because of words that look and mean the same in L1 and L2.	"Conservar was easy cause it looks like what it is in English."
6. Solves vocabulary problem.	The reader uses context, a synonym or some other word-solving behavior to understand a particular word.	"Straight-forward grammar means easy grammar."

7. Translates a word or phrase into L2.	The reader expresses meaning of word or phrase into English.	"I just put the words in Spanish."
8. Questions meaning of a word.	The reader does not understand a particular word.	"I don't understand this word."
9. Identifies, through circling, underlining, or placing an arrow, words/ phrases not understood.	The reader states that he/she circled, underlined, etc. a word or phrase not understood.	"I circled words I didn't know and went back to figure them out if I could."
10. Questions meaning of a clause or sentence.	The reader does not understand the meaning of a portion of the text.	"What's this sentence mean?"
11. Uses knowledge of syntax and punctuation or other grammar.	The reader expresses awareness of grammar, syntax, and parts of speech or punctuation.	"I put taking because I knew it had to be a verb. I figure x because there was a comma there. The word order here, Spanish is kind of reverse order."
12. Monitors reading pace and reading behavior.	The reader makes reference to slowing down, rereading or perhaps reading on in spite of not understanding some things. The reader mentions specifically that he/she went back and read something again, or when the reader indicates using information which is more than a sentence away.	"I just slowed down if I didn't know something." "Even though I wasn't getting everything, I just kept reading."
13. Paraphrases.	The reader rewords the original wording of the text.	"Reading through the first paragraph, talking about the smallness of the world and how international commerce and tourism

		and media and the arts show other cultures are around."
Global Strategies		
14. Skims, reads headings, subheadings, subtitles and looks at pictures.	The reader previews text to get a general idea of what the article is about before actually reading the text.	"Well I just looked it over quickly before I read it to get an idea, of what it was going to be."
15. Anticipates content.	The reader predicts what content will occur in succeeding portions of text.	"I guess the story will be about how you go about talking to babies."
16. Recognizes text structure	The reader distinguishes between main points and supporting details or discusses the purpose of information or notes how the information is presented.	"This article just compares the myths and realities of chocolate."
17. Integrates information.	This reader connects new information with previously stated content.	"Oh this connected with the sentence just before it."
18. Reacts to the text.	The reader reacts emotionally to information in the text.	"I love chocolate." "It was all pretty easy."
19. Speculates beyond the information in the text.	The reader shares a thought that goes beyond the information contained in the text.	"I was thinking about my roommate who loves chocolate. She needs to read this."
20. Acknowledges lack of background know-	The reader states lack of familiarity or	"I just don't know much about chemistry, biology, etc. so this was hard to understand."

ledge.	knowledge about text topic.	
21. Reads ahead.	The reader specifically mentions reading ahead as he/she reads.	"I looked at the next sub-subtitle colesterol y cafeina and got the idea that that's where they were ending up."
22. Visualizes.	The reader indicates that he/she had a mental image.	"I picture the needle like an airplane going over ridges."
23. Identifies main idea.	The reader relates major points of paragraph or passage.	"This whole thing was talking about how Africa was trying to get independence so they have to have control of the government.
24. Uses inference or draws conclusions.	The reader indicates that he/she guesses based on info in text and own knowledge.	"I wasn't familiar with either of these names so I simply used the fact that Charles Arden-Clarke was not African, and Nkrumah, who was the Gold Coast Prime Minister, he was getting advice so I would assume that Clarke was an advisor. I knew he wasn't an African because of his name.
25. Uses background knowledge.	The reader states a familiarity or knowledge about text topic.	"I just thought about the things I learned in Food and Nutrition." "I thought about what I experienced from Pasajes.
Knowledge of Cognition	The reader expresses some knowledge (or lack of) about his/her own cognitive resources, and the compatibility between the reader and the reading situation.	
26. Comment on behavior or process.	The reader describes strategy use, indicates awareness of the components of the process, or expresses a sense of accomplishment	"I'm getting this feeling I always get when I read like I lost a word." "I just get frustrated when I don't know all the words."

		or frustration.	
27.	Non-Use or Non-Awareness of Strategy.	The reader is unable to give strategy.	"I don't know. It just seemed to fit." "I had no idea what that one was."

The strategy classification presented here is derived from a variety of sources:

Neil Anderson. "Reading Comprehension Tests Versus Academic Reading: What are Second Language Readers Doing?" Ph.D. Disserstation, The University of Texas, Austin, 1989.

Ellen Block, "The Comprehension Strategies of Second Language Readers." TESOL Quarterly, Vol. 20, No. 3 (1986): 463-494.

Patricia Carrell, "Metacognitive Awareness and Second Language Reading." The Modern Language Journal, 73 (1989): 121-134.

Sharon B. Kletzien, "Strategy Use by Good and Poor Comprehenders Reading Expository Text of Differing Levels." Reading Research Quarterly, 26 (1991): 67-86.

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Appendix B

The following are samples of students' reasons why many thought the authentic passage was easier to read, less frustrating, more interesting, and preferred it over the edited text.

ID # 19, first-year student

I just understood, I understood more of the words, maybe also because it was a lot more interesting and maybe because I liked it. I just seemed to recognize more of the works and it made more sense out of what I was reading.

ID #123, third-year student

The one about chocolate [was easier] because it had the little darkened heading which kind of focus your attention to the topic. Oh, that was other thing, when I got to the second paragraph when I could figure out the topic sentence, it would help me understand what the whole paragraph was about. And so, after I read the chocolate article I could go back and remember what the three things were. I think there were shorter paragraphs and so there is not very much under one heading and chocolate seems to hold your attention more than the history of Spain (laugh).

ID # 89, second-year student

I guess this one [edited text] was mainly more frustrating because I knew what a lot of the words meant, but I just could not put them into what it meant in a sentence. I guess because it had bigger words, and ...This one [edited] seems more advanced to me, for a more advanced reader. But that looked like it was out of a magazine or something, but. So I don't know. That could just be for an every day reader, so. Um, again it was just frustrating for me because I knew what a lot of the words meant, and I couldn't piece it together what it was trying to say.

ID # 133, third-year student

[Explaining why edited text more frustrating]

Because I wasn't understanding any. . .the structures there were structures involved in their constructions that I wasn't familiar with and a lot of vocabulary I wasn't familiar with and so that made me. . . Whenever I don't know something, it makes me frustrated.

ID # 103, second-year student

[Explaining why he/she prefers authentic readings over edited ones]

Well, this is going to kind of not go too well with your bosses, but I don't like the way that these books are presented...They're not, I don't think they have a very realistic version of the way the Spanish culture is represented. I would rather an actual text of somebody actually living in Mexico right not writing a magazine article and read magazines from Spain or from Mexico or from South America or Central America, rather than reading what some doctorate at the University of Texas thinks Central America is like.

Author Notes

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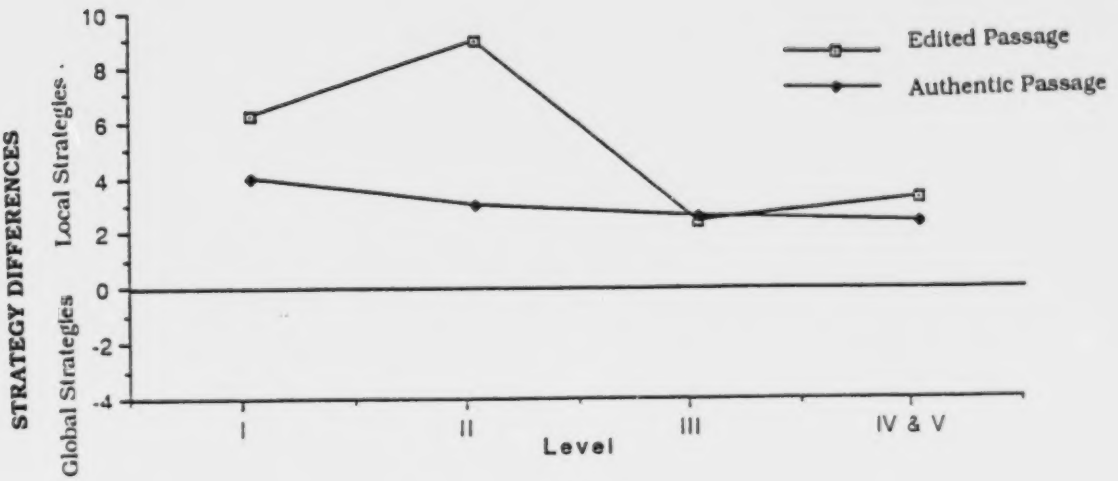

Figure 1. Local versus global strategy by level

Table 1

Strategy Differences Between Spanish Passage Types by Level

Level	Variable	N	MEAN	SD	T	PR>(T)
I	ED-SA	14	2.214	5.577	1.49	0.161
II	ED-SA	13	6.00	9.478	2.28	0.041
III	ED-SA	10	-0.200	4.894	-0.13	0.900
IV	ED-SA	12	0.916	5.567	0.57	0.579

ED-SA is the difference in strategies for the Spanish edited passage minus the difference in strategies for the Spanish authentic.

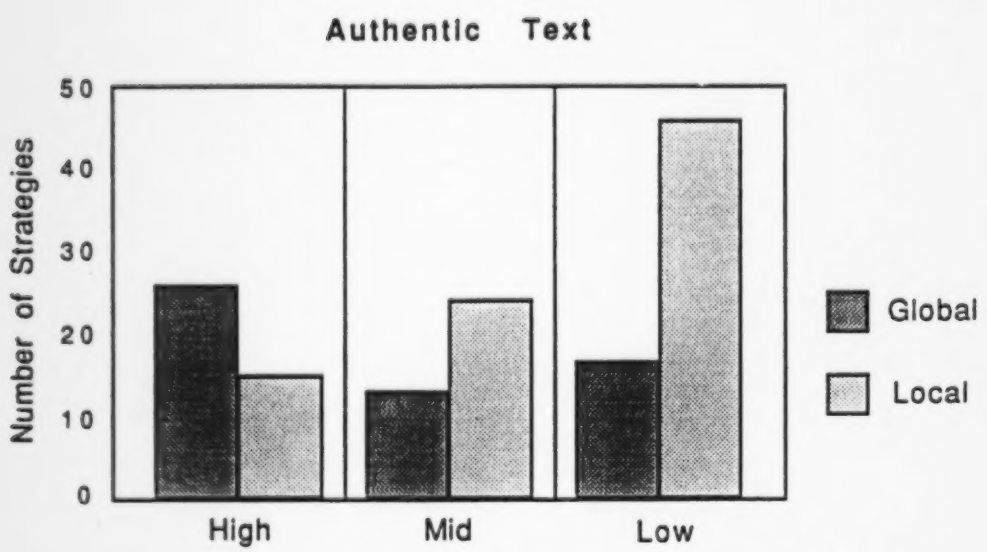

Figure 2. Mean number of local and global strategies used by high, mid, and low scorers

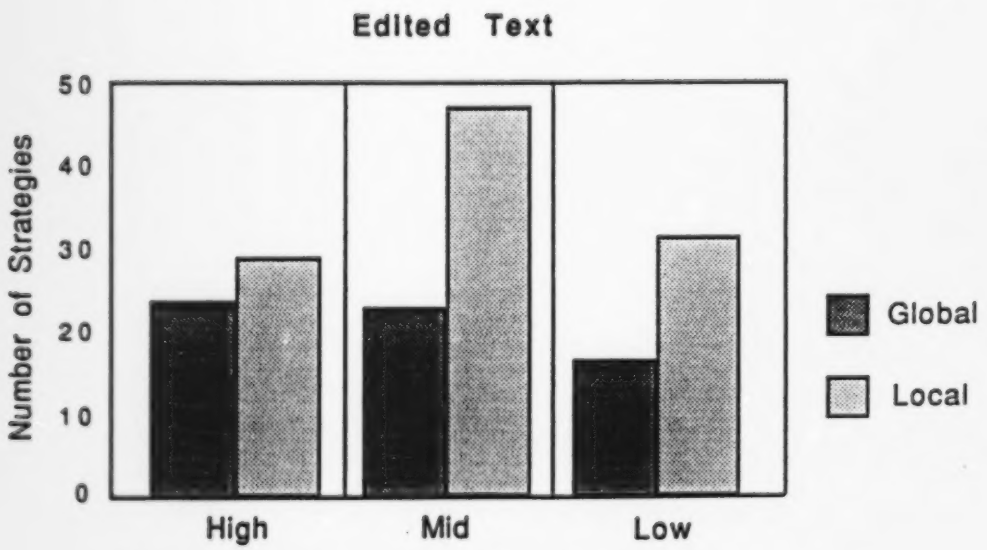

Figure 3. Mean number of local and global strategies used by high, mid, and low scorers

Table 2
Affective responses to authentic versus edited texts

1.	Which text was easier to read?			
	98% authentic	6% edited	2% neither	
2.	Did one make you more anxious or was one more frustrating? If yes, which one? Why?			
	4% authentic	75.5% edited	2% both	18% no
3.	Which text was more interesting? Why?			
	67.3% authentic	18% edited	12% both	2% neither
4.	If you could read more selections similar to the ones you have just read, which kind would you prefer? Why?			
	59% authentic	28% edited	12% both	